

I CLAIM:

1. Apparatus for installing a repair clamp on a pipe, said repair clamp including a generally cylindrical body having first and second opposed edge flanges, a slot extending the length thereof for receiving the pipe and positioning said repair clamp about an outer circumference of the pipe, and plural nut and bolt combinations coupled to said edge flanges for
5 drawing the repair clamp tightly about the pipe, said apparatus comprising:

a body portion having first and second opposed ends;

an arm having a first end pivotally coupled to said body portion adjacent the first end thereof, said arm further including a second opposed end adapted for insertion in an aperture in the first edge flange of the repair clamp;

10 a clasp pivotally coupled to said body portion intermediate the first and second opposed ends thereof and adapted to engage an outer edge of the repair clamp's second edge flange when said body portion is in a first position relative to said arm and clasp and the repair clamp is loosely disposed about the pipe, wherein pivoting displacement of said body portion about said arm and clasp to a second position draws the repair clamp's edge flanges together for securely
15 maintaining the repair clamp on and in engagement with the pipe and allowing the nut and bolt combinations to be tightened for securing the repair clamp to the pipe in a sealed manner; and

adjustable means coupling said clasp to said body portion for adjusting spacing between said arm and said clasp to accommodate a range of sizes of the repair clamp and diameters of the pipe.

2. The apparatus of claim 1 wherein said clasp includes a first end engaging the outer edge of the repair clamp's second edge flange and a second opposed end pivotally coupled

to said adjustable means on said body portion.

3. The apparatus of claim 2 further comprising a first pivot pin coupling the second end of said clasp to said adjustable means, wherein said adjustable means includes an elongated slot disposed in said body portion and having plural engaging members disposed in a spaced manner along the length of said slot for engaging said first pivot pin and establishing spacing between said arm and said clasp.

4. The apparatus of claim 3 wherein each of said engaging members includes a pair of concave recesses in facing relation within said elongated slot, with plural pairs of facing concave recesses disposed in a spaced manner along the length of said elongated slot, and wherein each pair of facing concave recesses securely engages said first pivot pin in a releasable manner.

5. The apparatus of claim 4 wherein said clasp includes a first hook disposed on its first end for engaging the outer edge of the repair clamp's second edge flange and a second hook disposed on its second opposed end and positioned about said first pivot pin.

6. The apparatus of claim 4 wherein said first pivot pin includes a first pair of opposed convex portions and a second pair of opposed flat portions disposed in an alternating manner about its circumference, and wherein said convex portions are adapted for secure engagement with opposed facing pairs of concave recesses in said elongated slot for fixedly coupling said clasp to said body portion, and wherein said first pivot pin is movable along the length of said slot for repositioning said first pivot pin within said slot when the opposed flat portions of said first pivot pin are in facing relation to the opposed convex portions of said slot.

7. The apparatus of claim 6 wherein said body portion includes first and second

connected members forming a handle at respective first connected ends thereof.

8. The apparatus of claim 7 wherein second opposed ends of said first and second members are arranged in a spaced manner from each other and wherein said arm and said clasp are disposed between said first and second members adjacent the second ends thereof.

9. The apparatus of claim 8 further comprising a second pin pivotally coupling said arm to said body portion, wherein said first and second pins are disposed between and coupled to said first and second members.

10. The apparatus of claim 8 wherein said adjustable means further includes first and second elongated linear slots respectively disposed in said first and second members with each of said slots having plural engaging members disposed in a spaced manner along the respective lengths thereof, and wherein the engaging members in said first slot engage a first end of said second pivot pin and the engaging members in said second slot engage a second opposed end of said second pivot pin.

11. The apparatus of claim 1 wherein said arm and said clasp are disposed in closely spaced, aligned relation when said body portion is pivotally displaced to said second position.

12. The apparatus of claim 1 further comprising a handle disposed on the second end of said body portion.

13. The apparatus of claim 12 wherein said handle is comprised of rubber or an elastomeric material.

14. The apparatus of claim 1 wherein the second end of said arm includes a hook structure for insertion into the aperture when said body portion is in said first position, and wherein said hook structure cannot be removed from the aperture when said body portion is in

said second position for locking the repair clamp in position on the pipe.

15. The apparatus of claim 14 wherein said aperture is in the form of a slot and said hook structure includes first and second coupled flat portions having approximately 90° relative orientation.

16. The apparatus of claim 1 wherein said clasp is generally C-shaped and includes an elongated slot for engaging an outer edge of the repair clamp's second edge flange.

17. The apparatus of claim 1 wherein said apparatus is comprised of high strength steel.

18. The apparatus of claim 1 further comprising first and second pins attached to said body portion for pivotally coupling said clasp and arm, respectively, to said body portion, and wherein said second pin forms an axis of rotation about which said body portion rotates when moved between said first and second positions.

19. The apparatus of claim 18 wherein said first and second pins and an end portion of said clasp engaging an outer edge of the repair clamp's second edge flange are in general linear alignment when said body portion is in said second position.

20. The apparatus of claim 19 wherein the body portion is pivotally displaced about said second pin in moving said body portion from said first to said second position in removing said apparatus from the repair clamp.

21. Apparatus for installing a repair clamp on a pipe, said repair clamp including a generally cylindrical body having an inner liner and first and second opposed edge flanges, a slot extending the length thereof for receiving the pipe and positioning said repair clamp about an outer circumference of the pipe, and plural nut and bolt combinations coupled to said edge

5 flanges for drawing the repair clamp tightly about the pipe, said apparatus comprising:
an elongated body having first and second opposed ends and an intermediate portion
disposed therebetween;
an arm having a first end pivotally coupled to said body adjacent the first end thereof by
means of a first pivot pin and a second opposed end adapted for insertion in an aperture in the
10 first edge flange of the repair clamp;
a clasp pivotally coupled by means of a second pivot pin to said body intermediate the
first and second opposed ends thereof and adapted to engage an outer edge of the repair clamp's
second edge flange when said body is in a first position relative to the repair clamp and the repair
clamp is loosely disposed about the pipe, wherein pivoting displacement of said body about said
15 first pivot pin in a direction away from the repair clamp's second edge flange to a second
position relative to the repair clamp draws the second end of said arm and said clasp as well as
the repair clamp's first and second edge flanges together, and wherein the inner liner and
cylindrical body of the repair clamp are securely maintained in engagement with the pipe about
its outer periphery allowing the nut and bolt combinations to be tightened for securing the pipe
20 clamp to the pipe in a sealed manner; and
adjustable means coupling for changing spacing between said arm and said clasp to
accommodate a range of sizes of the repair clamp and diameters of the pipe.

22. The apparatus of claim 21 wherein said body includes first and second spaced,
generally parallel members, with said first and second pins disposed between and coupled to said
first and second members.

23. The apparatus of claim 21 further comprising a handle disposed on the second end

of said body.

24. The apparatus of claim 23 wherein said handle is comprised of rubber or an elastomeric material.

25. The apparatus of claim 21 wherein the second end of said arm includes a hook structure for insertion into the aperture when said body is in said first position, and wherein said hook structure cannot be removed from the aperture when said body is in said second position for locking the repair clamp in position on the pipe.

26. The apparatus of claim 25 wherein said aperture is in the form of a slot and said hook structure includes first and second coupled flat portions having generally 90° relative orientation.

27. The apparatus of claim 21 wherein said clasp is curvilinear in shape having a first end coupled to said second pivot pin and a second opposed end engaging the outer edge of the repair clamp's second edge flange.

28. The apparatus of claim 27 wherein the second end of said clasp is generally in the form of a hook.

29. The apparatus of claim 21 wherein said apparatus is comprised of high strength steel.

30. The apparatus of claim 21 wherein said first pin forms an axis of rotation about which said body rotates when moved between said first and second positions.

31. The apparatus of claim 27 wherein said first and second pins and the second end of said clasp are in general linear alignment when said body is in said second position.

32. The apparatus of claim 21 wherein said adjustable means changes spacing

between said arm and said clasp, bringing said arm and clasp closer together for smaller pipe clamps and pipe diameters and moving said arm and clasp apart for larger pipe clamps and pipe diameters.

33. The apparatus of claim 32 wherein said clasp includes a first end engaging the outer edge of the repair clamp's second edge flange and a second opposed end pivotally coupled to said second pivot pin.

34. The apparatus of claim 33 wherein said adjustable means includes an elongated slot disposed in said body portion and having plural engaging members disposed in a spaced manner along the length of said slot for engaging said first pivot pin and establishing spacing between said arm and said clasp.

35. The apparatus of claim 34 wherein each of said engaging members includes a pair of concave recesses in facing relation within said elongated slot, with plural pairs of facing concave recesses disposed in a spaced manner along the length of said elongated slot, and wherein each pair of facing concave recesses securely engages said first pivot pin in a releasable manner.

36. The apparatus of claim 35 wherein said clasp includes a first hook disposed on its first end for engaging the outer edge of the repair clamp's second edge flange and a second hook disposed on its second opposed end and positioned about said second pivot pin.

37. The apparatus of claim 35 wherein said second pivot pin includes a first pair of opposed convex portions and a second pair of opposed flat portions disposed in an alternating manner about its circumference, and wherein said convex portions are adapted for secure engagement with opposed facing pairs of concave recesses in said elongated slot for fixedly

5 coupling said clasp to said body portion, and wherein said second pivot pin is movable along the length of said slot for repositioning said first pivot pin within said slot when the opposed flat portions of said first pivot pin are in facing relation to the opposed convex portions of said slot.

38. The apparatus of claim 37 wherein said body portion includes first and second connected members forming a handle at respective first connected ends thereof.

39. The apparatus of claim 38 wherein second opposed ends of said first and second members are arranged in a spaced manner from each other and wherein said arm and said clasp are disposed between said first and second members adjacent the second ends thereof.

40. The apparatus of claim 39 wherein said arm and said clasp are disposed in closely spaced, aligned relation when said body portion is pivotally displaced to said second position.